

REMARKS

Claims 1-48 remain in the application.

Prompt examination and allowance of all claims are respectfully requested. If the Examiner believes that a telephone interview would be helpful, he is invited to contact the undersigned attorney at the listed telephone number, which is on California time.

Respectfully submitted,



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Version with markings to show changes made

**In the claims:**

33. (Amended) System according to Claim 1 [or 31],  
**characterised** in that said PMD emulator unit is a variable infinite polarisation regulator having sufficient degrees of freedom, which projects said two PSP of the fibre to be compensated onto the PSP of said variable PMD delay element, without thoroughly controlling a local minimum of the overall PMD.

35. (Amended) System for compensating distortions induced by polarisation modulation dispersion (PMD) in optical transmission systems and in transmission fibres in particular, comprising

- [-] a means for measuring PMD-induced distortions,
- [-] an emulator unit for adjustable PMD levels, and
- [-] a controller which the output signal of said measuring means is applied to and which serves to control said emulator unit,

[or according to Claims 1, 7 or 18,]

**characterised** in that said controller comprises several control loops in which it modulates regulator elements with different frequencies, that said controller derives from the output signal of said measuring means information about the amount and the phase position of the signal output from said emulator unit, and uses this information to perform a [high-speed and] direct control function.

**Please add the following new claims:**

47. (New) System according to Claim 31,  
**characterised** in that said PMD emulator unit is a variable infinite polarisation regulator having sufficient degrees of freedom, which projects said two PSP of the fibre to be compensated onto the PSP of said variable PMD delay element, without thoroughly controlling a local minimum of the overall PMD.

48. (New) System according to Claims 1, 7 or 18,  
**characterised** in that said controller comprises several control loops in which it modulates regulator elements with different frequencies, that said controller derives from the output signal of said measuring means information about the amount and the phase position of the signal output from said emulator unit, and uses this information to perform a direct control function.

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